



## Aircraft Components Manufacturer Reduces Coolant Usage by 50% with Master Fluid Solutions



A U.S.-based aircraft components manufacturer that produces fuselages, pylons, nacelles, and wing elements for commercial and defense aircraft needed to find ways to improve productivity in their plants and decrease costs. They operate multiple facilities globally and provide critical parts to several well-known aircraft manufacturers.

### THE CHALLENGE

The manufacturer's existing coolant was going rancid in a very short period of time. Every two to three months, the coolant had to be completely dumped and replaced. As a result, each CNC machine required a two-hour shutdown for cleaning and recharging to prevent clogged filters, foul odors, mist and steam, and tool life failure. With their existing coolant lifespan averaging three months, even a minimal improvement of coolant life could provide significant productivity gains and costs savings.

### THE SOLUTION

The manufacturer decided it was time to investigate new suppliers. It brought in several companies, including Master Fluid Solutions, to run a seven-month trial of different products, including TRIM® MicroSol® 590XT. This semisynthetic microemulsion coolant is formulated specifically for aerospace applications and uses the latest technology to provide long life and protect sensitive alloys. Because of these unique properties, MicroSol 590XT was able to improve sump life and last longer in the manufacturer's machines.

In addition, MicroSol 590XT's existing approvals from Airbus, Boeing, and other aerospace manufacturers made it stand out even more among the competition.

Due to the strong positive results from the trials, Master Fluid Solutions was chosen as the manufacturer's supplier.

### THE RESULTS

During the initial seven-month trial period, the manufacturer did not have to swap out MicroSol 590XT from any of the test CNC machines. In fact, once all 340 machines were charged with MicroSol 590XT, they were able to use the coolant for 12 to 13 months without having to clean out the sump, saving an impressive **\$500,000** in coolant costs annually.

On top of the financial savings from not having to purchase and replace coolant as often, the manufacturer also achieved additional savings through increased productivity. Before, each machine had to be taken offline to dump, clean, and recharge with coolant every quarter, taking two hours per machine and causing a loss of 2,720 production hours each year. Using an industry standard burden rate of **\$100** per hour, with MicroSol 590XT, the manufacturer is now saving an additional **\$272,000** per year. Each machine cleanout also required at least one maintenance employee for two hours at a labor rate of **\$40** per hour. By reducing the need for frequent coolant changes, they yielded an additional **\$108,000** in savings from labor costs.

For the aircraft components manufacturer, not only did they cut their coolant usage in half, they improved productivity by increasing machine utilization, resulting in substantial cost savings.

### THE NUMBERS

- **50% reduction in coolant usage**
- **\$500,000 saved in coolant costs annually**
- **Coolant life of 12 to 13 months**
- **\$272,000 annual cost savings from increased machine utilization**
- **\$108,000 in reduced labor costs annually**
- **\$880,000 total annual savings**